



PATENT APPLICATION
Mo-5884
LeA 32,873

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

APPLICATION OF) GROUP: 1754
GÜNTHER LINDE ET AL)
SERIAL NO.: 09/646,450) EXAMINER: STEVEN J. BOS
FILED: SEPTEMBER 14, 2000)
TITLE: COMPACTED CARBON BLACK)
PELLETS)

APPEAL BRIEF

Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

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Sir:

This appeal is from the June 16, 2003 final rejection of Claims 20,21, 23-29, and 31-34 which are pending in captioned case. The Appeal Brief is being submitted in triplicate with a copy of the claims on appeal as Appendix 1, an Amendment to the claims which has been filed separately but concurrently herewith as Appendix 2. A separate Petition for Extension of time is being filed simultaneously herewith such that this Appeal Brief will be considered timely filed.

I. REAL PARTY IN INTEREST

The real party in interest for the present appeal is the assignee Bayer AG.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents Alexandria, VA, 20231, on January 16, 2004 Date

Godfried R. Akon Reg. No. 28,779
Name of Appellant, assignee or Registered Representative

[Signature]
Signature
January 16, 2004
Date

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II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of other appeals or interferences that will directly affect or be directly affected by or having a bearing on the present appeal.

III. STATUS OF CLAIMS

The above-referenced application was filed with Claims 1-19, which were cancelled and replaced with Claim 20-34, in a preliminary amendment dated September 14, 2000.

The captioned application was refilled as a Request for Continuing Examination (RCE) dated September 26, 2002. By an amendment dated April 30, 2002, Claims 22 and 30 were cancelled from the application.

Claims 20, 21, 23-29 and 31-34, which are pending but stand rejected, are the subject claims of this appeal.

IV. STATUS OF AMENDMENTS

No amendments after final rejection were filed.

V. SUMMARY OF THE INVENTION

The invention encompasses carbon black pigments which combine mechanical stability with elevated color intensity, which are technically simple to produce, using a low cost process, which yields dispersible, low density carbon black pellets which are stable during transport and easy to use. See the captioned application at page 2, lines 19-22.

More specifically, said pigments have been obtained through the application of relatively high pressures (compared to the state of the art pressures) and/or repeated compaction to produce pellets of greater stability, which astonishingly exhibit greater color intensity, at the same time. See the captioned application at page 4, lines 1-3.

Heretofore, the prior art has not taught the inventive concept of applying relatively high pressures to produce carbon black pigments, which are at once stable and exhibit greater color intensity.

VI. ISSUES

Issue 1

Whether the Examiner erred in rejecting Claims 20 and 25 under 35 USC 112, first paragraph on the grounds that an amendment to the claims reciting a narrower range constitutes new matter, where the narrower range falls within a broad range recited by the specification but is not literally recited.

Issue 2

Whether the Examiner erred in rejecting Claims 20 and 25 under 35 USC 112, first paragraph on the grounds that an amendment to the claims reciting a narrower range is not enabling, where the narrower range falls within a broad range recited by the specification but is not literally recited.

Issue 3

Whether the Examiner erred in rejecting Claims 20, 21, 23, and 24 under 35 USC 103 as being unpatentable over Linde '988 or EP 802241 where there is no evidence of record suggesting that the proposed modification of eliminating steps of the Linde '988 process would lead to the claims.

Issue 4

Whether the Examiner erred in rejecting Claims 20, 21, 23, and 24 as being unpatentable over Linde '988 or EP 802241 pursuant to the judicially created doctrine of double patenting, where there is no evidence of record suggesting that the proposed modification of eliminating steps of the Linde '988 process would lead to the claims.

VII. GROUPING OF CLAIMS

All the claims are appealed together.

VIII. ARGUMENTS

Appellants submit that issues relating to the objection to Claim 27 as stated at page 2 of the office action, Paper No. 18, and the rejection 35 USC 112, second paragraph rejection of Claims 23, 24, 31, and 32 as stated at page 3 of the office

action, Paper No 18 are render moot by the amendment to the claims which is being filed separately and attached hereto as Appendix 2.

Answer to Issue 1

The Examiner erred in rejecting Claims 20 and 25 under 35 USC 112, first paragraph on the grounds that an amendment to the claims reciting a narrower range constitutes new matter, where such range falls within a broad range recited by the specification but is not literally recited.

It is well settled in the law that lack of literal support is not fatal under 35 USC 112, first paragraph where a narrower range would occur to the skilled artisan. Appellants' position is based on the strong presumption that an adequate written description of the claimed invention is present in an application. Therefore, the PTO has the initial burden of presenting evidence or practical reason why the skilled artisan would not recognize the claimed invention from the disclosure, In re Werthheim 191 USPQ 90 (CCPA 1975).

In this case the record is devoid of any evidence or practical reason rebutting the presumption that the skilled artisan would recognize the claimed invention in the form of:

- (1) amended Claim 20 reciting that the pellets comprise one or more binders and/or dispersants in a total quantity of between 10 to 25wt.% based on the weight of the pellets, where the specification recites a range of 0.1 to 25 wt.%,and 1 to 20 wt% and 3 to 15wt.% and
- (2) amended Claim 25 reciting that the process was conducted in the presence of an auxiliary substance in a total quantity of between 10 to 25wt.% based on the weight of the pellets, where the specification recites a range 0.1 to 25 wt.% and 1 to 20 wt.% and 3 to 15wt.%.

For their part, Appellants submit that the skilled artisan, with the specification, would readily ascertain the claimed invention reciting the range of 10 to 25%, falling within the broad range of 0.1 to 25wt.% as being part of the claimed invention. This is all the more so where the specification further recites ranges of 1 to 20 wt.% and 3 to 15wt.%.

Answer to Issue 2

The Examiner erred in rejecting Claims 20 and 25 under 35 USC 112, first paragraph on the grounds that an amendment to the claims reciting narrower range is not enabling where such range falls within a broad range recited by the specification but is not literally recited.

Here as well, the record is devoid of any evidence or practical reason why the skilled artisan would not be able to make or use the claimed invention where:

- (3) the amendment to Claim 20 reciting "wherein the pellets comprise one or more binders and/or dispersants in a total quantity of between 10 to 25wt.% based on the weight of the pellets, where the specification recites a range of 0.1 to 25 wt.%, and 1 to 20 wt% and 3 to 15wt.%, " and
- (4) the amendment to Claim 25 reciting "in the presence of an auxiliary substance in a total quantity of between 10 to 25wt.% based on the weight of the pellets, where the specification recites a range 0.1 to 25 wt.% and 1 to 20 wt.% and 3 to 15wt.%".

The Examiner has not established that the skilled artisan, given the teachings of the specification, would nonetheless have to resort to undue experimentation in order to make or use the claimed invention. As such the Examiner has not met the burden of establishing lack of enablement.

Answer to Issue 3

The Examiner erred in rejecting Claims 20, 21, 23, and 24 as being unpatentable over Linde '988 or EP 802241 where there is no evidence of record suggesting that the proposed modification of eliminating steps of the Linde '988 process would lead to the claims.

Distinctly the claims cover carbon black pigments, which are surprisingly, at once stable and have elevated color intensity, greater than 100, and further cover the process for preparing the pigments by the application of relatively higher pressures including multiple compaction. Nothing of record teaches or suggests the

modification of the prior art Linde '988 to the claims.

The 35 U.S.C. 103(a) rejection of the claims over Linde is based on the grounds that:

"Linde and EP '241 each suggest the instantly claimed process which would appear to also produce the instantly claimed product (see cols. 4,5,8 and 9 and the claims of Linde). The taught briquette is the same as the instantly claimed pellet"

To support the above conclusion the Examiner reasoned without support that:

"The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549."

The Examiner further reasoned without factual support that:

"Where the examiner has found a substantially similar product as in the applied prior art the burden of proof is shifted to the Appellant to establish that their product is patentably distinct, see *In re Best*, 195 USPQ 430."

Contrary to the Examiner's assertion, a fair reading of Linde would show that its pigments and processes for preparing the same differ from the claims in a manner that is not taught or suggested thereby. Not surprisingly, the Examiner has not pointed to evidence of record suggesting how the proposed modification of the prior art, by eliminating steps of the Linde '988 process would lead to the claims.

Appellants discuss hereunder the differences between the prior art briquette and the instantly claimed pellets in the context of:

- 1) the properties of color intensity, relative to now-recited claim elements of compaction and binders composition;
- 2) clarification of the measurement of color intensity; and
- 3) clarification of Example 2 in Linde.

With regard to color intensity, a review of Linde '988 generally and particularly as illustrated by Table 1, clearly demonstrates that none of the briquettes manufactured pursuant to the process taught by Linde '988 exhibits color intensity

that exceeds 100% (please refer to Table 1 under col. 8, line 54 of Linde '988). Linde '988 thereby measured the color intensity of the carbon black powder against the corresponding starting powder in concrete (Example 1 as set forth in col. 8., lines 21-24). With regard to color intensity, it is, therefore, clear that the Linde '988 briquettes are not the same as the pellets in the instant invention.

With regard to color intensity relative to multiple compaction, it is of note that the compaction of a pellet two or more times results in a more highly compacted pellet. Such a multiple compaction should ordinarily impede dispersibility and thereby reduce relative color intensity. However, the opposite effect has surprisingly been observed in the instant application. All the pellets in Table 1 and Table 2 of the captioned application, which were compacted more than once demonstrate a relative color intensity of greater than 100%. (The use of a Vacupress also represents a compaction step (page 8, lines 1-3 of the captioned application).

The briquettes of Linde '988 further differ from the pellets of the instant application in that the pellets in the instant application have been compacted twice.

To better appreciate the invention, Appellants present hereunder a clarification of two points of fact which the Examiner has unfortunately misperceived in this case: (1) measurement of color intensity and (2) Example 2 of Linde. The Examiner's misperception of color intensity is seen in the statement that the instantly claimed compacted carbon black cannot be directly compared to that of Linde '988, because the claims of the instant application do not require that the relative color intensity be measured in concrete as it is in Linde '988. Appellants hereby submit that the compacted carbon black can indeed be compared directly to Linde '988. In this regard, Appellants direct the Examiner to Linde '988 which states that:

"The relative color intensity in concrete was determined compared with the corresponding starting powder. Also the relative color intensity in concrete was converted in relation to the pigment content in the granules (theoretical value)." Please refer to col. 8, lines 21-25 as well as to the information set forth in col. 6, lines 49 -67.

In this regard, Appellants further direct the Board's attention to pages 5-6 of the instant application. Particular emphasis is placed on page 6, lines 6-7, where reference to DIN 55986/A is made. Said DIN determines the relative color intensity of a product against its starting powder in concrete.

It also seems to Appellants that clarification of Example 2 in Linde '988 would aid in distinguishing the claims. Example 2 of Linde merely attempts to demonstrate the solidity of the product through its dust behavior. It is for this reason that one portion of the comminuted product was separated into two fractions using a screen, resulting in one fraction with particles larger than 250 mm. This fraction demonstrated good flowability. The other fraction of the comminuted product was then granulated, whereby the fines were granulated on the bigger granules. This fraction likewise demonstrated good flowability. However, after-granulation the material contained considerably more dust (1,328 mg of dust compared to 548 mg of dust (see Example 2 in col. 8, lines 37 to 54).

From the foregoing, it is clear that Example 2 does not have anything to do with relative color intensity. It merely addresses the issue of low dust, an issue which was listed as the object of the invention ("is low in dust" as set forth in col. 3 line 32).

In view of the foregoing, Applicants submit that Linde differs from the claims as to color intensity, and multiple compaction, Linde fails to teach or suggest modifications leading to the claims.

Answer to Issue 4

The Examiner erred in rejecting Claims 20, 21, 23, and 24 as being unpatentable over Linde '988 or EP 802241 pursuant to the judicially created doctrine of double patenting, where there is no evidence of record suggesting that the proposed modification of eliminating steps of the Linde '988 process would lead to the claims.

The double patenting rejection is similarly predicated on the Examiner's reasoning with factual support that:

"The taught briquet is equivalent to the instantly claimed pellet. The taught process is the same as that instantly claimed therefore the instantly claimed carbon black pellets having a "quotient of pycnometric density and bulk density between 3.0 and 10" would also be obtained by the patented process."

In an attempt to provide a support for the Examiner asserted that:

"It would have been obvious to one skilled in the art to recover the instantly claimed product from the taught process in order to use it as a colorant. It would have been obvious to one skilled in the art *to exclude the last two steps of the patented process along with the function it*

provides as it is not desired by the instant process, In re Larson 144 USPQ 347 or In re Wilson 153 USPQ 740." (Our emphasis).

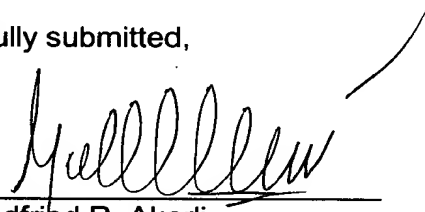
For the same reasons as stated above, nothing of record teaches or suggests the modification of the Linde to arrive at the claimed invention, under the judicially created doctrine of obviousness double patenting.

At any rate, a presumption of obviousness is rebutted by the unexpected results of obtaining said pigments through the application of relatively high pressures (compared to the state of the art pressures) and/or repeated compaction to produce greater pellet stability and astonishingly simultaneous greater color intensity. See the captioned application at page 4, lines 1-3.

Net: In view of the foregoing amendments and remarks clearly distinguishing the claims over Linde, Appellants submit that the claims are patentably distinct. The Examiner would be justified in allowing the claims as amended. Appellants therefore pray for allowance of the claims.

Respectfully submitted,

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APPENDIX 1

CLAIMS ON APPEAL

20. Carbon black pellets, prepared from uncompacted carbon black powder, having a relative color intensity, based on the uncompacted carbon black powder, of greater than 100% which have been compacted two or more times with different compressive forces and/or wherein the pellets comprise one or more binders and/or dispersants in a total quantity of between 10 to 25 wt.%, based on the weight of the pellets.

21. The pellets of Claim 20 wherein the pellets have an average particle size of 0.3 to 2 mm and a quotient of pycnometric density and bulk density between 3.0 and 10.

23. The pellets of Claim 22 wherein the binder comprises a liquid polyol, polyether, polyester, oil, water or an aqueous solution of a polymeric salt or molasses.

24. The pellets of Claim 22 wherein the dispersant comprises a lignin sulfonate or a naphthalene/formaldehyde condensation product.

25. A process for the production of carbon black pellets which comprises compacting carbon black two or more times with different compressive forces in the presence of an auxiliary substance in a total quantity of between 10 to 25 wt.%, based on the weight of the pellets and comminuting the compacted carbon black to pellets having an average particle size of 0.3 to 2 mm and a quotient of pycnometric density and bulk density between 3.0 and 10.

27. The process of Claim 25 comprising performing the compaction two or more times at different compressive forces.

28. The process of Claim 25 comprising using compression forces of between 1 and 100 kN/cm.

29. The process of Claim 25 comprising performing the compaction by screws, rollers, die presses or extruders.

31. The process of Claim 30, wherein the binder comprises a liquid polyol, polyether, polyester, oil, water or an aqueous solution of a polymeric salt or molasses.

32. The process of Claim 30 wherein the dispersant comprises a lignin sulfonate and a naphthalene/formaldehyde condensation product.

33. The process of Claim 25 comprising coating the resulting pellets with wax, polyether, polyolefin or polyvinyl alcohol.

34. The process of Claim 33 comprising adding a preservative and/or fragrance to the wax, polyether, polyolefin or polyvinyl alcohol.

Appendix 2

IN THE CLAIMS:

20. (Preciously Present) Carbon black pellets, prepared from uncompacted carbon black powder, having a relative color intensity, based on the uncompacted carbon black powder, of greater than 100% which have been compacted two or more times with different compressive forces and/or wherein the pellets comprise one or more binders and/or dispersants in a total quantity of between 10 to 25 wt.%, based on the weight of the pellets.

21. (Previously Presented) The pellets of Claim 20 wherein the pellets have an average particle size of 0.3 to 2 mm and a quotient of pycnometric density and bulk density between 3.0 and 10.

22. (Cancelled).

23. (Currently Amended) The pellets of Claim ~~22~~ 20 wherein the pellets comprise a binder and/or dispersant in a total quality of 0.1 to 25 wt.% based on the weight of the pellets and wherein the binder comprises a liquid polyol, polyether, polyester, oil, water or an aqueous solution of a polymeric salt or molasses.

24. (Previously Presented) The pellets of Claim 22 wherein the dispersant comprises a lignin sulfonate or a naphthalene/formaldehyde condensation product.

25. (Previously Presented) A process for the production of carbon black pellets which comprises compacting carbon black two or more times with different compressive forces in the presence of an auxiliary substance in a total quantity of between 10 to 25 wt.%, based on the weight of the pellets and comminuting the compacted carbon black to pellets having an average particle size of 0.3 to 2 mm and a quotient of pycnometric density and bulk density between 3.0 and 10.

26. (Cancelled).

27. (Cancelled)
28. (Previously Presented) The process of Claim 25 comprising using compression forces of between 1 and 100 kN/cm.
29. (Previously Presented) The process of Claim 25 comprising performing the compaction by screws, rollers, die presses or extruders.
30. (Cancelled).
31. (Currently Amended) The process of Claim ~~30-25~~, wherein the auxiliary substance is a binder and/or dispersant used in a total quantity of 0.1 to 25% based on the weight of the pellet, and wherein the binder comprises a liquid polyol, polyether, polyester, oil, water or an aqueous solution of a polymeric salt or molasses.
32. (Currently Amended) The process of Claim ~~30~~ 31, wherein the dispersant comprises a lignin sulfonate and a naphthalene/formaldehyde condensation product.
33. (Previously Presented) The process of Claim 25 comprising coating the resulting pellets with wax, polyether, polyolefin or polyvinyl alcohol.
34. (Previously Presented) The process of Claim 33 comprising adding a preservative and/or fragrance to the wax, polyether, polyolefin or polyvinyl alcohol.